AMENDMENTS TO THE DRAWINGS

The attached sheets of drawings label Figure 4 as "Prior Art." No new matter has been added. Included are Replacement sheets and one Annotated sheet.

REMARKS

Claims 1-10 are pending. Formal replacement drawing sheets are submitted herewith that reflect the change required in the Office Action. In particular, Figure 4 has been labeled "Prior Art." Claims 1, 3, 5, 7, 9 and 10 are the independent claims.

Claims 1-10 were rejected under 35 U.S.C. § 102(e) over U.S. Patent 6,438,389 (Sandhu et al.) or U.S. Patent Publication No. 2004/0131134 (Hiroyasu). Claims 1-10 also were rejected under 35 U.S.C. § 102(b) over U.S. Patent 6,049,307 (Lim). Applicant submits that the independent claims are patentable over the cited references for at least the following reasons.

Claim 1 is directed to directional antenna control device which forms a plurality of fixed beams based on signals received by a plurality of array antenna elements, detects power levels of the fixed beams, and selects a fixed beam in accordance with the detected power levels to generate a received signal based on the selected beam. The device includes: (a) detecting means for detecting, per unit time period for beam switching, a power level of a fixed beam selected in the previous unit time period, power levels of m fixed beams (where m is a positive integer) adjacent to the fixed beam selected in the previous unit time period, and power levels of n fixed beams (where n is a positive integer) of the plurality of fixed beams except for the fixed beam selected in the previous unit time period and the m fixed beams; and (b) selecting means for selecting a fixed beam having the largest power in accordance with the power levels detected by the detecting means.

Sandhu et al. is directed to a wireless communication system having adaptive beam selection. The position was taken in the Office Action that the signal quality measurement device 46 corresponds to the recited detecting means.

Sandhu's signal quality measurement device 46 is described as measuring the quality of a beam signal by measuring the received signal power, baseband eye opening and color code correlation of the signal received on a beam. See col. 5, lines 10-28. However, Sandhu does not teach that the device 46 provides the features of the recited detecting means, that is, of detecting, per unit time period for beam switching, a power level of a fixed beam selected in the previous unit time period, power levels of m fixed beams (where m is a positive integer) adjacent to the fixed beam selected in the previous unit time period, and power levels of n fixed beams (where n is a positive integer) of the plurality of fixed beams except for the fixed beam selected in the previous unit time period and the m fixed beams. For at least this reason, the Office Action has failed to set forth a prima facie case of anticipation with regard to Sandhu.

Hiroyasu relates to a device that cancels interference from a received signal. The position was taken in the Office Action that Hiroyasu's elements 40-1 through 40-P and 41 correspond to the recited detecting means. Elements 40-1 through 40-P are described as being path-based detection/interference power estimate sections, while element 41 is described as being an SIR estimate section. See, e.g., paragraph [0055].

However, Hiroyasu does not teach that the referenced elements meet the limitations of the recited detecting means, that is, of detecting, per unit time period for beam switching, a power level of a fixed beam selected in the previous unit time period, power levels of m fixed beams (where m is a positive integer) adjacent to the fixed beam selected in the previous unit time period, and power levels of n fixed beams (where n is a positive integer) of the plurality of fixed beams except for the fixed beam selected in the previous unit time period and the m fixed beams. For at least this reason, the Office Action has failed to set forth a prima facie case of anticipation with regard to Hiroyasu.

Lim shows an adaptive phased array antenna system that uses a memory unit storing weights. This allows the phased array antenna to use weights calculated in advance. The position was taken in the Office Action that Lim's elements 530 and 540 correspond to the recited detecting means.

Element 530 is described by Lim as being a power divider that is connected to the transmitter (560) and which, while transmitting, divides computed antenna weights. The power combiner unit 540 is described as summing received signals, received from the power feeder unit 520, using weights. Col. 5, lines 38-64.

Neither element 530 nor element 540 is taught in Lim as having the features of the recited detecting means, that is, of detecting, per unit time period for beam switching, a power level of a fixed beam selected in the previous unit time period, power levels of m fixed beams (where m is a positive integer) adjacent to the fixed beam selected in the previous unit time period, and power levels of n fixed beams (where n is a positive integer) of the plurality of fixed beams except for the fixed beam selected in the previous unit time period and the m fixed beams. For at least this reason, the Office Action has failed to set forth a prima facie case of anticipation with regard to Lim.

Claims 5 and 9 also recite a feature substantially similar to that discussed above in connection with claim 1. Those claims are believed to distinguish from the cited references for substantially similar reasons.

Independent claims 3, 7 and 10 recite, inter alia, detecting, per unit time period for beam switching, an SIR (Signal-to-Interference power ration) of a fixed beam selected in the previous unit time period, power levels of m fixed beams (where m is a positive integer) adjacent to the fixed beam selected in the previous unit time period,

and SIRs of n fixed beams (where n is a positive integer) of the plurality of fixed beams except for the fixed beam selected in the previous unit time period and the m fixed beams. The Office Action cited the same portions of the references for the detecting means of claim 1 as for the detecting limitations recited in claims 3, 7 and 10. Claims 3, 7 and 10 are believed patentable over the cited references for substantially similar reasons as claim 1.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and early passage to issue of the present application.

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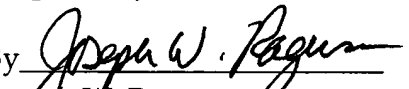
Respectfully submitted,

By 

Joseph W. Ragusa
Registration No.: 38,586
DICKSTEIN SHAPIRO LLP
1177 Avenue of the Americas
41st Floor
New York, New York 10036-2714
(212) 277-6500
Attorney for Applicant

FIG. 4 PRIOR ART